

# Geological mapping of slope for diversion tunnel inlet

Scale 1:100

## Legend

- Interbedded Mi+Qu Schist and Quartz-Schist
- Moderately weathered
- Joint number and attitude (Dip direction/Dip)
- Fault number and attitude (Dip direction/Dip)
- Dripping



## Summary of Geological Conditions

|                                   |                         |
|-----------------------------------|-------------------------|
| Slope Elevation                   | EL. 1243.50-EL. 1255.67 |
| Rock types                        | Mi+Qu Sch               |
| Rock hardness                     | Medium hard rock        |
| Degree of weathered               | Moderately weathered    |
| Rock attitude (Dip direction/dip) | 40° / 40°               |
| Rock mass classification          | III                     |
| Groundwater situation             | Dry local dripping      |

| PEAK | TUNNEL        | ROCK TYPE | UCS            | GROUND WATER | RQD    | Jv          | Jn                   | Jr      | Ja                   | Jw                  | SRF    | $Q=\frac{RQD \times J_v \times J_n}{J_r \times J_a \times SRF}$ | ROCK MASS CLASS | DATE      |
|------|---------------|-----------|----------------|--------------|--------|-------------|----------------------|---------|----------------------|---------------------|--------|---|-----------------|-----------|
|      | DIRECTION     | Mi+Qu Sch |                | GW1          | 60     | 16.6        | 6                    | 1       | 1                    | 1                   | 2.5    | 4   | III             | 2022.1.14 |
| NO   | Geometries    |           | SEPARATION (m) | JOINTS GROUP |        | PERSISTENCE | ROUGHNESS/APPEARANCE | FILLING | WEATHER OF ROCK WALL | FAULT               |        | UCS   |                 |           |
|      | Dip direction | Dip angle |                | SPACING      | NUMBER |             |                      |         |                      | INFLUENCED ZONE (m) | NATURE | Very high   | >250            |           |
|      |               |           |                |              |        |             |                      |         |                      |                     |        | High  | 100-250         |           |
|      |               |           |                |              |        |             |                      |         |                      |                     |        | medium-high   | 50-100          |           |
|      |               |           |                |              |        |             |                      |         |                      |                     |        | moderate  | 25-50           |           |
| J1   | 40            | 40        | C1             | SP1          | 15     | C3          | R2                   | F3, F4  | W3                   |                     |        | Low   | 1-25            |           |
| J2   | 185           | 72        | C2             | SP1          | 8      | C3          | R2                   | F3, F4  | W3                   |                     |        | Very low  | 1-5             |           |
| F1   | 40            | 25        |                |              |        | C5          | R2                   | F9, F12 | W3                   | 0.1-0.3             | FC2    | RQD%  |                 |           |
| F2   | 40            | 40        |                |              |        | C5          | R4                   | F9, F12 | W3                   | 0.1-0.3             | FC2    |   |                 |           |

| SEPARATION (APERTURE)    | SPACING OF JOINTS      | PERSISTENCE        | ROUGHNESS/APPEARANCE        | FILLING                                | FAULT NATURE                      | Excellent quality      | 90-100%        |
|--------------------------|------------------------|--------------------|-----------------------------|--|-----------------------------------|------------------------|----------------|
| C0: Very tight <0.1mm    | SP1: VERY WIDE >2m     | C1: Very Low <1m   | R1: very rough surfaces     | F1: rock silt                          | FC1: downthrown fault             | Good quality           | 75-90%         |
| C1: Tight 0.1-0.5mm      | SP2: WIDE 0.6-2m       | C2: Low 1-3m       | R2: rough surfaces          | F2: rock silt                          | FC2: upthrown fault               | Fair quality           | 50-75%         |
| C2: open 0.5-2.5mm       | SP3: 200-600mm         | C3: medium 3-10m   | R3: slightly rough surfaces | F3: rock fragments                     | FC3: strike-slip fault            | Poor quality           | 25-50%         |
| C3: open 2.5-10mm        | SP4: 60-200mm          | C4: High 10-20m    | R4: smooth surfaces         | F4: rock powder                        | FC4: Crushed bedding plane (zone) | Very poor quality      | <25%           |
| C4: wide 10-30mm         | SP5: <60mm             | C5: Very high >20m | R5: slickensided surfaces   | F5: Calcium film                       | FC5: Alteration zone              | GROUND WATER CONDITION |                |
| C5: Very wide >30mm      |                        | E0: Left wall      | A1: planar                  | F6: Calcite vein                       | FC6: fault scum                   | GW1                    | Completely dry |
| WEATHER OF ROCK WALL     |                        | E1: Top wall       | A2: stepped                 | F7: Quartz vein                        |                                   | GW2                    | Damp           |
| W1: unweathered          | W2: slightly weathered | E2: Right wall     | A3: undulating              | F15: weak intercalated layers siltized |                                   | GW3                    | Wet            |
| W3: moderately weathered | W4: highly weathered   |                    |                             | F16: Fractured zone                    |                                   | GW4                    | Dripping       |
|                          |                        |                    |                             |  |                                   | GW5                    | Flowing        |

NOTE

## FOR INFORMATION

1. This report is for reference only and should not be used for any other purpose without the written consent of the author.

2. The author is not responsible for any errors or omissions in this report.

3. The author is not responsible for any damages or losses caused by the use of this report.

4. The author is not responsible for any legal actions or claims against the author.

5. The author is not responsible for any other actions or claims against the author.

6. The author is not responsible for any other actions or claims against the author.

7. The author is not responsible for any other actions or claims against the author.

8. The author is not responsible for any other actions or claims against the author.

9. The author is not responsible for any other actions or claims against the author.

10. The author is not responsible for any other actions or claims against the author.

11. The author is not responsible for any other actions or claims against the author.

12. The author is not responsible for any other actions or claims against the author.

13. The author is not responsible for any other actions or claims against the author.

14. The author is not responsible for any other actions or claims against the author.

15. The author is not responsible for any other actions or claims against the author.

16. The author is not responsible for any other actions or claims against the author.

17. The author is not responsible for any other actions or claims against the author.

18. The author is not responsible for any other actions or claims against the author.

19. The author is not responsible for any other actions or claims against the author.

20. The author is not responsible for any other actions or claims against the author.

21. The author is not responsible for any other actions or claims against the author.

22. The author is not responsible for any other actions or claims against the author.

23. The author is not responsible for any other actions or claims against the author.

24. The author is not responsible for any other actions or claims against the author.

25. The author is not responsible for any other actions or claims against the author.

26. The author is not responsible for any other actions or claims against the author.

27. The author is not responsible for any other actions or claims against the author.

28. The author is not responsible for any other actions or claims against the author.

29. The author is not responsible for any other actions or claims against the author.

30. The author is not responsible for any other actions or claims against the author.

31. The author is not responsible for any other actions or claims against the author.

32. The author is not responsible for any other actions or claims against the author.

33. The author is not responsible for any other actions or claims against the author.

34. The author is not responsible for any other actions or claims against the author.

35. The author is not responsible for any other actions or claims against the author.

36. The author is not responsible for any other actions or claims against the author.

37. The author is not responsible for any other actions or claims against the author.

38. The author is not responsible for any other actions or claims against the author.

39. The author is not responsible for any other actions or claims against the author.

40. The author is not responsible for any other actions or claims against the author.

41. The author is not responsible for any other actions or claims against the author.

42. The author is not responsible for any other actions or claims against the author.

43. The author is not responsible for any other actions or claims against the author.

44. The author is not responsible for any other actions or claims against the author.

45. The author is not responsible for any other actions or claims against the author.